

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L3	9	("20010037345" "20010047372" "20010056429" "20020010764" "20020116371" "20020123993" "6446256" "6584459" "6711590").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/10/16 16:04
L4	726	xml near database	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/10/16 17:00
L5	228	L4 and @ad<"20011206"	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/10/16 17:26
L6	946	transform\$2 and metadata and persisten\$2	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2005/10/16 17:26
L7	346	L6 and @ad<"20011206"	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/10/16 17:26
S1	210	703/17.ccls.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/10/14 18:44
S2	726	xml near database	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/10/14 18:44
S3	129	(xml and database).ti.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/10/14 18:52
S5	41	S3 and @ad<"20011206"	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/10/16 17:00
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IEEE JNL IEEE Journal or Magazine

IEE JNL IEE Journal or Magazine

IEEE CNF IEEE Conference Proceeding

IEE CNF IEE Conference Proceeding

IEEE STD IEEE Standard

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Relevance scale ☐ ☐ ☐ ☐ ☐1 [An Architecture for Retaining and Analyzing Visual Explorations of Databases](#)

J. P. Lee, Georges Grinstein

October 1995 **Proceedings of the 6th conference on Visualization '95**Full text available: [pdf\(954.51 KB\)](#)[Publisher Site](#)Additional Information: [full citation](#), [abstract](#), [citations](#)

A software architecture is presented to integrate a database management system with data visualization. One of its primary objectives, the retention of user-data interactions, is detailed. By storing all queries over the data along with high-level descriptions of the query result and associated visualization, the process by which a database is explored can be analyzed. This approach can lead to contributions in the development of user models as "data explorers", metadata models for scientific da ...

Keywords: visual database exploration, database visualization, metadata, user modeling, interaction

2 [DLFM: a transactional resource manager](#)

Hui-I Hsiao, Inderpal Narang

May 2000 **ACM SIGMOD Record , Proceedings of the 2000 ACM SIGMOD international conference on Management of data**, Volume 29 Issue 2Full text available: [pdf\(124.99 KB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The DataLinks technology developed at IBM Almaden Research Center and now available in DB2 UDB 5.2 introduces a new data type called DATALINK for a database to reference and manage files stored external to the database. An external file is put under a database control by "linking" the file to the database. Control to a file can also be removed by "unlinking" it. The technology provides transactional semantics with respect to linking or unlinking the file when DATALINK ...

3 [Free transactions with Rio Vista](#)

David E. Lowell, Peter M. Chen

October 1997 **ACM SIGOPS Operating Systems Review , Proceedings of the sixteenth ACM symposium on Operating systems principles**, Volume 31 Issue 5Full text available: [pdf\(1.13 MB\)](#)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)4 [Metadatabase solutions for enterprise information integration problems](#)

Cheng Hsu, Laurie Rattner

January 1993 **ACM SIGMIS Database**, Volume 24 Issue 1


Full text available:  [pdf\(1.29 MB\)](#) Additional Information: [full citation](#), [abstract](#), [index terms](#)

The success of modern information technology in the past decades has brought about the proliferation of systems dedicated to individual groups of applications and functions. This proliferation, in turn, has led to the need for enterprise-wide management and integration of information, and has triggered major efforts such as systems integration, re-engineering, and computer integrated manufacturing. Nonetheless, achieving such integration remains a challenge. To effectively manage information reso ...

5 Spatiotemporal Databases: Tripod: a comprehensive system for the management of spatial and aspatial historical objects

Tony Griffiths, Alvaro A. A. Fernandes, Norman W. Paton, Bo Huang, Mike Worboys, Chris Johnson, Keith T. Mason, John Stell


November 2001 **Proceedings of the 9th ACM international symposium on Advances in geographic information systems**

Full text available:  [pdf\(1.69 MB\)](#) Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

Spatio-temporal databases have been the focus of considerable research attention in recent years. To date, much of this work has focused on the relational data model, with object data models receiving far less consideration. Where descriptions of such object models do exist, there is currently a lack of systems that build upon these models to produce database architectures that address the broad spectrum of issues related to the delivery for a fully functional spatio-temporal DBMS. This paper pre ...

6 Lightweight recoverable virtual memory

M. Satyanarayanan, Henry H. Mashburn, Puneet Kumar, David C. Steere, James J. Kistler
February 1994 **ACM Transactions on Computer Systems (TOCS)**, Volume 12 Issue 1

Full text available:  [pdf\(1.73 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)


Recoverable virtual memory refers to regions of a virtual address space on which transactional guarantees are offered. This article describes RVM, an efficient, portable, and easily used implementation of recoverable virtual memory for Unix environments. A unique characteristic of RVM is that it allows independent control over the transactional properties of atomicity, permanence, and serializability. This leads to considerable flexibility in the use of RVM, potentially enla ...

Keywords: Camelot, Coda, RVM, Unix, logging, paging, persistence, scalability, throughput, truncation

7 Phoenix: making applications robust

Roger Barga, David B. Lomet


June 1999 **ACM SIGMOD Record , Proceedings of the 1999 ACM SIGMOD international conference on Management of data**, Volume 28 Issue 2

Full text available:  [pdf\(373.68 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

8 OQL_SERF: an ODMG implementation of the template-based schema evolution framework

Kajal T. Claypool, Jing Jin, Elke A. Rundensteiner

November 1998 **Proceedings of the 1998 conference of the Centre for Advanced Studies on Collaborative research**

Full text available:  [pdf\(333.22 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

With rapid progress in application development and technologies, there is an increasing need to specify and handle complex schema changes of databases. The existing support for schema evolution in current OODB systems is limited to a pre-defined taxonomy of simple

schema evolution operations with fixed semantics. We have proposed an extensible framework for schema transformations to address this open problem. The SERF framework succeeds in giving the user the *flexibility* to define the sem ...

9 Document Databases: Requirements for XML document database systems

Airi Salminen, Frank Wm. Tompa

November 2001 **Proceedings of the 2001 ACM Symposium on Document engineering**

Full text available:  [pdf\(141.89 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)


The shift from SGML to XML has created new demands for managing structured documents. Many XML documents will be transient representations for the purpose of data exchange between different types of applications, but there will also be a need for effective means to manage persistent XML data as a database. In this paper we explore requirements for an XML database management system. The purpose of the paper is not to suggest a single type of system covering all necessary features. Instead the pur ...

Keywords: XML, XML database systems, data definition, data manipulation, data modelling, structured documents

10 Mostly-copying reachability-based orthogonal persistence

Antony L. Hosking, Jiawan Chen

October 1999 **ACM SIGPLAN Notices , Proceedings of the 14th ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications**, Volume 34 Issue 10

Full text available:  [pdf\(3.25 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We describe how reachability-based orthogonal persistence can be supported even in uncooperative implementations of languages such as C++ and Modula-3, and without modification to the compiler. Our scheme extends Bartlett's mostly-copying garbage collector to manage both transient objects and resident persistent objects, and to compute the reachability closure necessary for stabilization of the persistent heap. It has been implemented in our prototype of reachability-based persistence for M ...

11 Building temporal structures in a layered multimedia data model

G. Schloss, M. Wynblatt

October 1994 **Proceedings of the second ACM international conference on Multimedia**

Full text available:  [pdf\(758.68 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The Layered Multimedia Data Model (LMDM) aids in the specification of multimedia compositions by dividing the problem into smaller, more manageable pieces. In this paper we describe the lower two layers of the LMDM, the Data Definition Layer, which allows the specification of multimedia objects in a database, and the Data Manipulation Layer, which allows the specification of temporal structures built from those objects. Several examples demonstrate the advantages of the layered paradigm: si ...

12 Searching and information extracting: Multimedia information services enabling: an architectural approach

Erik Boertjes, Willem Jonker, Jeroen Wijnands

September 2001 **Proceedings of the 2001 ACM workshops on Multimedia: multimedia information retrieval**

Full text available:  [pdf\(599.94 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

This paper presents a scalable and extendable architecture consisting of the essential building blocks for multimedia information services. It provides building blocks for multimedia transport, storage, retrieval, filtering, and presentation, together with their interdependencies. After presenting the overall architecture, we focus in more detail on the 3-level modeling and querying of multimedia data. Emphasis is placed on the support for a


wide variety of modeling and querying techniques in th ...

Keywords: information management, metadata management, multimedia search, multimedia services, platform architectures, query processing

13 Persistent storage for distributed applications

Richard Golding, John Wilkes

September 1998 **Proceedings of the 8th ACM SIGOPS European workshop on Support for composing distributed applications**

Full text available:  [pdf\(676.16 KB\)](#) Additional Information: [full citation](#), [index terms](#)



14 Semantic heterogeneity resolution in federated databases by metadata implantation and stepwise evolution

Goksel Aslan, Dennis McLeod

October 1999 **The VLDB Journal — The International Journal on Very Large Data Bases**, Volume 8 Issue 2

Full text available:  [pdf\(1.05 MB\)](#) Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

A key aspect of interoperation among data-intensive systems involves the mediation of metadata and ontologies across database boundaries. One way to achieve such mediation between a local database and a remote database is to fold remote metadata into the local metadata, thereby creating a common platform through which information sharing and exchange becomes possible. Schema implantation and semantic evolution, our approach to the metadata folding problem, is a partial database integration schem ...

Keywords: Database integration, Database interoperability, Federated databases, Schema evolution, Semantic heterogeneity resolution



15 An open abstract-object storage system

Stephen Blott, Lukas Relly, Hans-Jörg Schek

June 1996 **ACM SIGMOD Record , Proceedings of the 1996 ACM SIGMOD international conference on Management of data**, Volume 25 Issue 2

Full text available:  [pdf\(1.15 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Database systems must become more open to retain their relevance as a technology of choice and necessity. Openness implies not only databases exporting their data, but also exporting their services. This is as true in classical application areas as in non-classical (GIS, multimedia, design, etc). This paper addresses the problem of exporting storage-management services of indexing, replication and basic query processing. We describe an abstract-object storage model which provides the basic mechan ...



16 Object orientation in multidatabase systems

Evaggelia Pitoura, Omran Bukhres, Ahmed Elmagarmid

June 1995 **ACM Computing Surveys (CSUR)**, Volume 27 Issue 2

Full text available:  [pdf\(4.85 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)


A multidatabase system (MDBS) is a confederation of preexisting distributed, heterogeneous, and autonomous database systems. There has been a recent proliferation of research suggesting the application of object-oriented techniques to facilitate the complex task of designing and implementing MDBSs. Although this approach seems promising, the lack of a general framework impedes any further development. The goal of this paper is to provide a concrete analysis and categorization of the various ...

Keywords: distributed objects, federated databases, integration, multidatabases, views



17 A strongly typed, interactive object-oriented database programming language

A. Albano, G. Ghelli, M. E. Occhiuto, R. Orsini

September 1986 **Proceedings on the 1986 international workshop on Object-oriented database systems**Full text available:  [pdf\(887.00 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Programming languages with data types have been used successfully to model databases with the abstraction mechanisms of a relational or semantic data model. The benefits of data types for modeling databases with an object-oriented database language has also been considered, but more research is required to isolate the basic features that the type system of the language should have, and to integrate the representation of abstract knowledge with the representation of concrete and procedural k ...

18 Polar: an architecture for a parallel ODMG compliant object database

Jim Smith, Paul Watson, Sandra de F. Mendes Sampaio, Norman Paton

November 2000 **Proceedings of the ninth international conference on Information and knowledge management**Full text available:  [pdf\(229.58 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**19 Development of an OO infrastructure for mainframe database applications**


Darryl James Rothering

October 1994 **ACM SIGPLAN Notices , Proceedings of the ninth annual conference on Object-oriented programming systems, language, and applications**, Volume 29 Issue 10Full text available:  [pdf\(839.77 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Large mainframe installations need and want to exploit the advantages of Object Technology (OT), but without totally abandoning their legacy environments. Implementing Object Orientation in such a COBOL/CICS/DB2 environment is a challenge: there is neither language support, nor development tools, nor execution infrastructure, nor testing utilities. Yet Object Orientation can be fully implemented, and a project can still meet rigorous performance requirements and tough delivery time scales. ...

20 Shoring up persistent applications

Michael J. Carey, David J. DeWitt, Michael J. Franklin, Nancy E. Hall, Mark L. McAuliffe, Jeffrey F. Naughton, Daniel T. Schuh, Marvin H. Solomon, C. K. Tan, Odysseas G. Tsatalos, Seth J. White, Michael J. Zwilling

May 1994 **ACM SIGMOD Record , Proceedings of the 1994 ACM SIGMOD international conference on Management of data**, Volume 23 Issue 2Full text available:  [pdf\(1.40 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

SHORE (Scalable Heterogeneous Object REpository) is a persistent object system under development at the University of Wisconsin. SHORE represents a merger of object-oriented database and file system technologies. In this paper we give the goals and motivation for SHORE, and describe how SHORE provides features of both technologies. We also describe some novel aspects of the SHORE architecture, including a symmetric peer-to-peer server architecture, server customization through an extensible ...

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1 [Special section on advanced XML data processing: On database theory and XML](#)

Dan Suci

September 2001 **ACM SIGMOD Record**, Volume 30 Issue 3Full text available: [pdf\(745.69 KB\)](#)
 Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Over the years, the connection between database theory and database practice has weakened. We argue here that the new challenges posed by XML and its applications are strengthening this connection today. We illustrate three examples of theoretical problems arising from XML applications, based on our own research.

2 [Special section on advanced XML data processing: Why and how to benchmark XML databases](#)

Albrecht Schmidt, Florian Waas, Martin Kersten, Daniela Florescu, Michael J. Carey, Ioana Manolescu, Ralph Busse

September 2001 **ACM SIGMOD Record**, Volume 30 Issue 3Full text available: [pdf\(612.38 KB\)](#)
 Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Benchmarks belong to the very standard repertory of tools deployed in database development. Assessing the capabilities of a system, analyzing actual and potential bottlenecks, and, naturally, comparing the pros and cons of different systems architectures have become indispensable tasks as databases management systems grow in complexity and capacity. In the course of the development of XML databases the need for a benchmark framework has become more and more evident: a great many different ways t ...

3 [Document Databases: Bridging XML-schema and relational databases: a system for generating and manipulating relational databases using valid XML documents](#)

Iraklis Varlamis, Michalis Vazirgiannis

November 2001 **Proceedings of the 2001 ACM Symposium on Document engineering**Full text available: [pdf\(130.57 KB\)](#)
 Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Many organizations and enterprises establish distributed working environments, where different users need to exchange information based on a common model. XML is widely used to facilitate this information exchange. The extensibility of XML allows the creation of generic models that integrate data from different sources. For these tasks, several applications are used to import and export information in XML format from the data repositories. In order to support this process for relational reposito ...

Keywords: XML, document storage and retrieval, mapping, metadata, querying, relational databases

4 Document Databases: Requirements for XML document database systems

Airi Salminen, Frank Wm. Tompa

November 2001 **Proceedings of the 2001 ACM Symposium on Document engineering**

Full text available:  [pdf\(141.89 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The shift from SGML to XML has created new demands for managing structured documents. Many XML documents will be transient representations for the purpose of data exchange between different types of applications, but there will also be a need for effective means to manage persistent XML data as a database. In this paper we explore requirements for an XML database management system. The purpose of the paper is not to suggest a single type of system covering all necessary features. Instead the pur ...

Keywords: XML, XML database systems, data definition, data manipulation, data modelling, structured documents

5 XRel: a path-based approach to storage and retrieval of XML documents using relational databases

August 2001 **ACM Transactions on Internet Technology (TOIT)**, Volume 1 Issue 1

Full text available:  [pdf\(264.27 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

This article describes XRel, a novel approach for storage and retrieval of XML documents using relational databases. In this approach, an XML document is decomposed into nodes on the basis of its tree structure and stored in relational tables according to the node type, with path information from the root to each node. XRel enables us to store XML documents using a fixed relational schema without any information about DTDs and also to utilize indices such as the B+

Keywords: XML query, XPath, text markup, text tagging

6 Document Databases: The extended XQL for querying and updating large XML databases

Raymond K. Wong

November 2001 **Proceedings of the 2001 ACM Symposium on Document engineering**

Full text available:  [pdf\(117.62 KB\)](#)


Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

XQL has been argued as just a model for asking for specific sets of elements with very limited query capability. This paper proposes several extensions of XQL to address the issues. The extensions include full-text indexed search, path variables, joins, session-based navigations, and updates. Effort has been spent to preserve the conciseness of the language syntax. Its corresponding query processor with optimization mechanism has been prototyped and available online. Finally, implementation issue ...

7 A reusable graphical user interface for manipulating object-oriented databases using Java and XML

Suzanne W. Dietrich, Dan Suceava, Chakrapani Cherukuri, Susan D. Urban

February 2001 **ACM SIGCSE Bulletin , Proceedings of the thirty-second SIGSE technical symposium on Computer Science Education**, Volume 33 Issue 1

Full text available:  [pdf\(532.53 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper describes the design and functionality of a graphical user interface (GUI) written in Java Swing that is used to support instructional activities associated with teaching object-oriented database (OODB) concepts. The GUI supports the manipulation of objects in an OODB, assuming the implementation of a specified interface for interacting with an OODB.

By using the interface, students can focus on object-oriented design and programming concepts associated with OODB concepts rather than ...

8 Web Information Management: A performance evaluation of storing XML data in relational database management systems

Latifur Khan, Yan Rao

November 2001 **Proceedings of the 3rd international workshop on Web information and data management**

Full text available:  pdf(104.45 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

XML is an emerging standard for the representation and exchange of Internet data. Along with document type definition (DTD), XML permits the execution of a collection of queries, using XPath to identify data in XML documents. In this paper we examine how XML data can be stored and queried using a standard relational database management system (RDBMS). For this, we propose a technique for automatic mapping from an XML document to relations within the RDBMS. We demonstrate that our novel approach ...

Keywords: DTD, SQL, XML, XPath, relational DBMS

9 Querying web distributed databases for XML-based E-businesses: requirement analysis, design, and implementation

Hiroshi Ishikawa, Manabu Ohta

January 2001 **Proceedings of the 12th Australasian conference on Database technologies ADC '01**

Full text available:  pdf(850.81 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)
 [Publisher Site](#)

Electronic Commerce (EC) business models like e-brokers on the Web use XML databases such as product and customer data. To flexibly model such applications, we need a modeling language for EC businesses, that is, business processes. To this end, we have adopted a query language approach to modeling and have designed a query language for distributed XML databases called XBM suitable for EC businesses. In this paper, we discuss the requirements for an XML query language for supporting EC business ...

10 Special section on advanced XML data processing: A general technique for querying XML documents using a relational database system

Jayavel Shanmugasundaram, Eugene Shekita, Jerry Kiernan, Rajasekar Krishnamurthy, Efstratios Viglas, Jeffrey Naughton, Igor Tatarinov

September 2001 **ACM SIGMOD Record**, Volume 30 Issue 3

Full text available:  pdf(645.23 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

There has been recent interest in using relational database systems to store and query XML documents. Each of the techniques proposed in this context works by (a) creating tables for the purpose of storing XML documents (also called *relational schema generation*), (b) storing XML documents by shredding them into rows in the created tables, and (c) converting queries over XML documents into SQL queries over the created tables. Since relational schema generation is a physical database design ...

11 XML based adaptation of the composite approach for database integration

Brian Ensink, Kimberly Haveman, Mochan Shrestha, Todd Schavey

April 1999 **Proceedings of the 37th annual Southeast regional conference (CD-ROM)**

Full text available:  pdf(294.10 KB) Additional Information: [full citation](#), [index terms](#)

12 Of XML and databases (panel session): where's the beef?

Michael J. Carey, Jennifer Widom, Adam Bosworth, Bruce Lindsay, Michael Stonebraker, Dan

Suciu

May 2000 **ACM SIGMOD Record , Proceedings of the 2000 ACM SIGMOD international conference on Management of data**, Volume 29 Issue 2

Full text available:  pdf(14.13 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

This panel will examine the implications of the XML revolution, which is currently raging on the web, for database systems research and development.

Keywords: World-Wide Web, XML, databases, semistructured data

13 Efficiently publishing relational data as XML documents

Jayavel Shanmugasundaram, Eugene Shekita, Rimon Barr, Michael Carey, Bruce Lindsay, Hamid Pirahesh, Berthold Reinwald

September 2001 **The VLDB Journal — The International Journal on Very Large Data Bases**, Volume 10 Issue 2-3

Full text available:  pdf(216.67 KB) Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

XML is rapidly emerging as a standard for exchanging business data on the World Wide Web. For the foreseeable future, however, most business data will continue to be stored in relational database systems. Consequently, if XML is to fulfill its potential, some mechanism is needed to publish relational data as XML documents. Towards that goal, one of the major challenges is finding a way to efficiently structure and tag data from one or more tables as a hierarchical XML document. Different alterna ...

Keywords: Publishing, Relational databases, XML

14 Efficient evaluation of XML middle-ware queries

Mary Fernandez, Atsuyuki Morishima, Dan Suciu

May 2001 **ACM SIGMOD Record , Proceedings of the 2001 ACM SIGMOD international conference on Management of data**, Volume 30 Issue 2

Full text available:  pdf(414.15 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We address the problem of efficiently constructing materialized XML views of relational databases. In our setting, the XML view is specified by a query in the declarative query language of a middle-ware system, called SilkRoute. The middle-ware system evaluates a query by sending one or more SQL queries to the target relational database, integrating the resulting tuple streams, and adding the XML tags. We focus on how to best choose the SQL queries, without having control over the target RDBM ...

15 Semistructured Data: XOO7: applying OO7 benchmark to XML query processing tool

Ying Guang Li, Stéphane Bressan, Gillian Dobbie, Zoé Lacroix, Mong Li Lee, Ullas Nambiar, Bimlesh Wadhwa

October 2001 **Proceedings of the tenth international conference on Information and knowledge management**

Full text available:  pdf(1.41 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)


If XML is to play the critical role of the lingua franca for Internet data interchange that many predict, it is necessary to start designing and adopting benchmarks allowing the comparative performance analysis of the tools being developed and proposed. The effectiveness of existing XML query languages has been studied by many, with a focus on the comparison of linguistic features, implicitly reflecting the fact that most XML tools exist only on paper. In this paper, with a focus on efficiency a ...

Keywords: XML aware database, XML benchmarks, XML management systems, XOO7, native-XML database

16 Complete answer aggregates for treelike databases: a novel approach to combine querying and navigation

Holger Meuss, Klaus U. Schulz

April 2001 **ACM Transactions on Information Systems (TOIS)**, Volume 19 Issue 2

Full text available:  [pdf\(356.60 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The use of markup languages like SGML, HTML or XML for encoding the structure of documents or linguistic data has led to many databases where entries are adequately described as trees. In this context querying formalisms are interesting that offer the possibility to refer both to textual content and logical structure. We consider models where the structure specified in a query is not only used as a filter, but also for selecting and presenting different parts of the data. If answers are formalized ...

Keywords: SGML, XML, answer presentation, information retrieval, logic, query languages, semistructured data, structured documents, tree databases, tree matching

17 A unified constraint model for XML

Wenfei Fan, Gabriel M. Kuper, Jérôme Siméon

April 2001 **Proceedings of the 10th international conference on World Wide Web**

Full text available:  [pdf\(263.40 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: XML, XML schema, constraint reasoning, integrity constraints, keys, object identity, subtyping

18 Regular expression types for XML

Haruo Hosoya, Jérôme Vouillon, Benjamin C. Pierce

September 2000 **ACM SIGPLAN Notices , Proceedings of the fifth ACM SIGPLAN international conference on Functional programming**, Volume 35 Issue 9

Full text available:  [pdf\(575.20 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We propose *regular expression types* as a foundation for XML processing languages. Regular expression types are a natural generalization of Document Type Definitions (DTDs), describing structures in XML documents using regular expression operators (i.e., *, ?, |, etc.) and supporting a simple but powerful notion of *subtyping*. The decision problem for the subtype relation is EXPTIME-hard, but it can be checked quite efficiently in many cases of practical interest. The subtyping algorithm ...

19 Modelling stars using XML

Jaroslav Pokorný

November 2001 **Proceedings of the 4th ACM international workshop on Data warehousing and OLAP**

Full text available:  [pdf\(2.29 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We suppose collections of XML data described by Document Type Definitions (DTDs). This data has been generated by applications and plays a role of OLTP database(s). A star schema, a well-known technique used in data warehousing, can be applied. Then dimension information is supposed to be contained in XML data. We will use the notions of subDTD and view, and formulate referential integrity constraints in XML environment. We use simple pattern matching capabilities of current XML query languages ...

Keywords: XML, data warehouse, dimension, star schema

20 A Web Odyssey: from Codd to XML

Victor Vianu

May 2001 **Proceedings of the twentieth ACM SIGMOD-SIGACT-SIGART symposium on Principles of database systems**Full text available:  [pdf\(282.10 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

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